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COVER STORY Western Union has survived dramatic business upheavals. Can the CIO help this Civil War-era company succeed in the digital payments revolution?

BY KIM S. NASH



Western Union CIO **David Thompson** says data analytics will be critical to the company's digital transformation.



FROM THE
EDITOR IN CHIEF

start

CHATTER

Digital Gamble

Imagine your company has a potential customer base of 2 billion people worldwide. None of them have bank accounts, but a growing number of them have cell phones.

These “unbanked” millions are firing up your competition like never before—from big banks to Internet entrepreneurs—as the mobile banking revolution rolls on. Digital disruption isn’t some media buzzword. It has your business model by the throat.

Western Union is living this reality today, which is what made it such a fascinating subject for our cover story (“Disruption Déjà vu,” Page 18). In reporting this multifaceted company profile, Managing Editor Kim S. Nash delved into documents from the Securities and Exchange Commission, Wall Street briefings and patent filings, as well as interviewing company executives and outside sources.

“The question is whether Western Union will be fast and bold enough to emerge as a winner in the game of digital disruption,” Nash writes, noting that much of its business is conducted in person and in cash, “in a world where money cards, digital currency and mobile payments are proliferating.”

Having survived multiple business upheavals over the past 160 years, Western Union now makes most of its money by charging fees for money transfers and bill-paying, and by hedging global exchange rates. The \$5.7 billion company is counting on a mix of mobile and social technologies, data analytics and proprietary systems to map out a profitable (but still largely uncertain) future.

In hiring a new CIO in early 2012 to launch the digital transformation, CEO Hikmet Ersek turned away from financial industry IT leaders. Instead, he chose high-tech industry veteran David Thompson, former CIO of Symantec, Oracle and PeopleSoft. Thompson’s \$3.4 million compensation package made him the second-highest-paid company officer—a clear indicator of the high-stakes nature of this digital gamble. “We don’t pour money into anything without returns,” Ersek says frankly.

As the company figures out how to extend digital capabilities directly to customers, data analytics will of course play a starring role. For example, Thompson put six data scientists in strategic locations in the U.S., India and China to create a “follow-the-sun” analytics system. That and other IT strategies will be worth watching closely as this live case study in digital disruption unfolds.

Maryfran Johnson, Editor in Chief, CIO Magazine & Events
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Seahawks Score Sales

When the Seattle Seahawks football team realized they were **losing sales** at their stadium souvenir store due to **long lines**, they started looking for **mobile checkout** solutions. Nick Johnson, the Seahawks’ IT specialist, pieced together a mobile point-of-sale system that allows **iPod Touch** devices to read **bar codes and credit cards**. One system resides in a cart that serves as a temporary register, while others are in the hands of employees who can wander around the store or **pluck customers out of line** and ring them up. www.cio.com/article/744643

Disruption for Healthcare

Dr. Jeffrey Brenner, executive director of Camden Coalition of Healthcare Providers, says the U.S. healthcare system is having its **“Blockbuster Video moment,”** when it’s ripe for disruptive innovation. For example, many patients don’t need to see a doctor right away, or even at all, to solve certain health problems. Brenner says healthcare needs fewer doctors and **more nurses and health coaches**. But those employees will need access to **electronic medical records** so they can make recommendations. www.cio.com/article/744399

Technical Talent Matters

Companies need to pay more attention to recruiting and retaining the IT staffers who handle infrastructure and operations, says Gartner analyst John Rivard. He says **turnover is a problem** in this area, so he recommends developing a **long-range plan to fill any skills gaps**. To find new talent, Rivard suggests tapping **social media** to spread the word about job openings. www.cio.com/article/744599

Compiled by Staff Writer Lauren Brousell.
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FROM THE **CEO**

Thinking in 3-D

What if I were to tell you that one day printers will be able to build homes, manufacture guns and cook food? That would be pretty remarkable progress, and to my surprise, it's quite possible.

The potential of 3-D printers reaches beyond revolutionizing the printing market and into transforming entire industries.

To be honest, the term "3-D printing" doesn't do justice to the true capabilities of this technology. Lucas Mearian, a senior writer at *Computerworld* (one of CIO's sister brands), writes frequently about this topic. In December, he wrote about the first 3-D printed organ (a liver), which is expected later this year. The month before, he explored the dangers of 3-D printed guns exploding.

Both of those examples highlight how 3-D printers can produce very complex products, one through advancing medical science, the other with thermoplastic materials.

If you take it one step further, you can see that once these printers can scale in size, much larger items can be built with little human labor. Construction of homes from 3-D printing becomes a real possibility. (There's already a video on YouTube from a TEDx talk last year about "contour crafting" and the automated construction of a house.) But if you really want to dream big, imagine sending these printers to the moon, where they could build facilities that are managed from Earth.

Not crazy enough for you? Think about the ability to actually have food available wherever there is electricity. The food would be freeze-dried, crushed and placed into "ink cartridges." With the push of a 3-D printer button, the heat it produces could cook your food.

Imagine having a 3-D printer available to print replacement parts at your business or home. When something breaks, you simply download the specs and print it out wherever you are. No customer service calls, no shipping and handling costs, no waiting.

When I think of the ramifications all this will have on intellectual property protection in just about every industry, it's more than a little mind-boggling. No wonder the *Harvard Business Review* wrote about this last spring under the headline, "3-D Printing Will Change the World."

I'd love to hear what CIOs are thinking about the potential of this technology. Write to me at the email address below.

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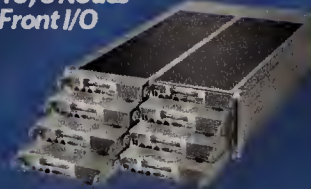
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Banking Gets a Face-Lift

Bank of America upgrades the customer experience with on-demand video, mobile chat and more **BY STEPHANIE OVERBY**

At Bank of America, there's a simple metric for measuring customer experience: how well a customer's interaction compares to his expectations. But simple doesn't mean easy. Consumers assess their experience against all kinds of companies, not just other banks, says Hari Gopalkrishnan, Bank of America's managing director of e-commerce, architecture and consumer segments technology. "They're comparing us to Apple and Amazon and the premium customer-service organizations." That's pressure.

For the past two years, the bank has been rolling out new customer-facing features and rethinking back-end systems to improve customer experience across channels.

Last April, the \$84.2 billion company introduced ATMs with Teller Assist, which makes tasks like cashing a check—which would usually have to happen during banker's hours because they require a physical exchange with a teller—available to customers anytime they want. If they need help during the transaction, they can summon a video teller. In banking, there are self-service ►►►

..... **96%** U.S. senior financial executives who say they will need to extract much greater value from financial and operating data in 2014. American Express/CFO Research

►► **Banking** Continued from Page 7

channels, such as mobile or online banking, and assisted channels, like a contact center or an in-person teller, says Steve Beasty, a consumer banking technology executive at the bank. "This brings the two together."

Today's banking customers expect to complete via digital channels transactions that traditionally required a phone call or branch visit, says customer service consultant Micah Solomon. "Banks are wise to recognize this." Banks must invest in high-touch customer service, benchmarking themselves against the best players in hospitality, says Solomon.

At Bank of America, hybrid technology underpins its teller-less "express centers," the first of which opened in Manhattan in August. But they were a challenge. "You take for granted how much a teller actually does during a transaction," says Beasty. Adding video was tricky. When you send data over a network, if something goes wrong, you resend. But resending distorts live video, he says. "It's a complex coordination."

It's also controversial. Traditional tellers recently picketed a Teller Assist ATM in New York, saying the machines threaten their jobs. Beasty says the bank wants to provide customers with choices, adding that tellers "will continue to play a critical role."

Other new customer features from the bank marry historically separate channels, such as a bank-by-appointment option available online, by phone or via mobile device. Instead of getting stuck waiting with a lollipop at a branch, says Gopalkrishnan, customers are met by a tablet-wielding representative who knows why they're there. If a mobile customer sees a fee she doesn't understand, she'd normally have to call to try to get an answer. Now the bank is testing a mobile Let's Talk button that will authenticate her and connect her to a call center agent. IT is piloting a system to authenticate customers by phone or app using real-time analysis of vocal patterns.

Someday, Beasty says, the bank will have ongoing conversations with customers across channels. His goal is that customers never have to repeat themselves. Now that's pressure.

Stephanie Overby is a freelance writer based in Massachusetts.

crunch

What the CEO Wants from You

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The CEO's top priorities for you in the coming year.

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- 2 **Complete** a major enterprise project
- 3 **Support** customer acquisition and retention
- 4 **Simplify** IT
- 5 **Lead** a product innovation effort

SOURCE: CIO MAGAZINE SURVEY OF 722 CIOs; MULTIPLE RESPONSES ALLOWED



"You take for granted how much a teller actually does."

—Steve Beasty,
consumer banking
technology executive,
Bank of America

Call Centers Suffer from Data Overload

Corporate call centers collect more data about customer interactions than ever before. The problem is they don't know what to do with it.

Nearly half of contact centers (48 percent) collect and report on metrics they don't use, according to a survey conducted by the International Customer Management Institute and sponsored by WhitePages. Most of the data is in the form of "legacy reports determined when agent efficiency was more important than customer satisfaction," says John Neely, director of accounts for WhitePages.

Many of the 542 call-center professionals surveyed say they are experiencing data overload, but are not getting the kind of data that would boost customer satisfaction. Most agents (69 percent) have to navigate multiple screens to locate information and 40 percent must manually input customer-contact information rather than getting an automatic feed.

The result: Frustrated customers "have to keep giving the same information again and again," Neely says. "Today's customer expects technology to...save them from repetitive, redundant experiences."

—Stephanie Overby

.....**31%** American shoppers who say they would like to use self-help kiosks to log in to loyalty program accounts at their favorite stores. Synqera

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Keeping the Face in Facebook

CIO Tim Campos says videoconferencing and other collaboration tools boost employee productivity, but integration is a challenge **BY STACY COLLETT**

What does the maker of the world's most popular social network use to communicate with its own employees? At Facebook, the preferred meeting tool (other than its own website) is increasingly a cloud-based videoconferencing service from Blue Jeans Network. Facebook CIO **Tim Campos** says videoconferencing and other collaboration tools are "one way to preserve our culture" by connecting about 6,000 employees in 50 countries.



You can see whether or not the person is understanding and whether they're paying attention.

How does videoconferencing help Facebook maintain its culture?

We believe very strongly that the way business gets done is not necessarily how it's organized on an org chart but through connections with other people. We're increasingly geographically dispersed. With sales, the challenge is: How do they represent the company when many of them don't live in the cultural hub—Menlo Park. The sales rep is going out representing Facebook to large brands all around the world. Helping them to understand, live and exhibit our culture is an important part of their job. So we will default to a video

call wherever possible. The product organization is looking [to videoconferencing] not just to be able to have productive team meetings but also for the casual walk-up-to-somebody's-desk conversation.

What have you accomplished with videoconferencing?

Meetings are more productive. You can see whether or not the person is understanding and whether they're paying attention. Sales [executives] were able to get together over a [video] call to talk through the details of the budget for next year and make their case for why things should be adjusted. In very short order, they

were able to come up with a well-aligned, integrated plan.

What other collaboration tools do you use?

We use an internal variant of Zoho.com for document collaboration. We use Box [for cloud storage], and a ton of other smaller collaboration tools. Unofficially, 20 percent of our workforce uses Evernote. Of course, we have our own wikis internally, and we have a technology called Task, a lightweight task-sharing system [created by Facebook co-founder Dustin Moskovitz].

That's a lot of tools. Does it get overwhelming?

Your point is exactly one of our biggest issues. The fact that these systems are all disparate and not integrated is a productivity challenge in itself. Part of employees coming up to speed in the company is learning how the company collaborates and what the social norms are, and it would be great if we could tie these systems together more effectively so you just automatically *knew*. We're in the process of building it ourselves because there isn't really an uber collaboration-integration capability out there that you can buy. We would love to buy it. If somebody out there came up with a good framework for how to tie collaboration tools together, we'd be the first customers!

Stacy Collett is a freelance writer based in Illinois.

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THE MANUFACTURING CLOUD

Doctor Drugstore

Walgreens is using advanced analytics to provide holistic healthcare at in-store clinics **BY MARY K. PRATT**

Clinicians at Walgreens in-store health clinics are using big data to augment conventional medical tools for patient checkups, in order to better assess each patient's condition and provide recommendations. The goal is to treat patients' immediate needs—that is, the concerns that brought them to the clinic in the first place—as well as to deliver a holistic medical experience that can increase the patient's overall health and avoid future medical costs. "The ability to deliver advanced analytics at the point of care can help identify and resolve gaps in quality of care," says Heather Helle, who oversees more than 400 clinics as COO of Walgreens' clinics division.

In-store clinics are a big deal for Walgreens, whose CEO Greg Wasson tells financial analysts the company wants "to play a central role in emerging care models." Walgreens also runs health centers at large companies that want on-site care for employees. Last year, Walgreens started ▶▶▶

Heather Helle, COO of Walgreens' clinics division, says analytics can help Walgreens personalize healthcare visits for walk-in patients and provide more complete care.



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►► **Analytics** Continued from Page 12

to deploy Inovalon's Electronic Patient Assessment Solution Suite (ePASS), a Web-based decision-support system that includes medical data and the tools to analyze it.

The suite includes data provided by health insurance companies and offers access to a registry containing information culled from 7.5 billion medical events involving more than 100 million individuals. The data includes demographics, enrollment, diagnoses, procedures, pharmacy information and laboratory results from commercial, Medicare, and Medicaid managed-care plan members. Hundreds of health plans in the U.S. and Puerto Rico are part of the system, which handles more than 140 million insured members, 540,000 physicians and 220 clinical facilities, according to Inovalon.

Checking Up On You

When a patient from any of the health insurers that partner with Inovalon seeks care at a Walgreens clinic, ePASS analyzes aggregated data and gives the clinician details about the patient's conditions, treatment history and any missing elements. For example, the software can identify that a patient is overdue for a routine screening or hasn't filled a prescription. The system alerts the clinician to these gaps so she can make recommendations to the patient right then and there.

"It can provide a very, very specific encounter for that patient," Helle says.

In contrast, a clinician treating a patient whose records aren't part of the system would have to take a detailed oral history. Even then, the clinicians couldn't know about possible missed screenings or unfilled prescriptions.

Cynthia Burghard, a research director at IDC Health Insights, says Walgreens clinicians should be able to get insights through ePASS that they couldn't get without analytics. But point-of-care analytics is a young field, Burghard says, and it's too early to determine how much analytics can improve patient health.

However, Burghard says, ePASS could set Walgreens apart from its competitors. CVS runs in-store clinics, and Rite-Aid has launched online clinics via kiosks in some of its stores. If insurers see that Walgreens can produce good healthcare outcomes at lower costs, they may direct their members there, she says, to help keep overall costs in check.

Mary K. Pratt is a freelance writer based in Massachusetts.

National Geographic's IT Team Just Says Yes

BY TOM KANESHIGE

At National Geographic, as at many companies, employees were bypassing the IT department with stealth tech and rogue projects. IT coped by adopting a strategy that could have come from the pages of its company's own magazine: adapt to survive.

IT can no longer dictate to its users. Business line managers and employees are choosing which apps and mobile devices they want to consume. "The old IT was, 'We're going to do a release once a quarter and test for 10 weeks out of that quarter, and on the first day of quarter two, you're going to use it and love it,'" says Dan Backer, director of infrastructure systems at National Geographic. "That's the part of IT that's eventually fading into irrelevancy."

But how can CIOs lure consumer-app-loving employees into the fold of secure and compliant best practices? A survey commissioned by Mobiquity found that IT is trying to regain control by preloading apps onto mobile devices and creating app black-lists. But that just makes employees resentful of IT.

National Geographic's IT department took a different approach: It opened the floodgates and let employees use whatever apps they wanted. IT promised to make life easier for employees if they put their consumer apps under the aegis of Okta's cloud-based single-sign-on. IT could also help business managers with cloud contracts and security.

"People started coming out of the woodwork with all their shadow IT cloud apps," Backer says. "They said, 'We want to do the right thing and get on board with you guys.'"

How They Did It: National Geographic started by making 10 basic corporate apps available over its intranet and through Okta's mobile app, including Gmail, a VPN, a file-transfer service and PeopleSoft. After opening Okta up to any app—employees have a self-service process for adding apps—the number of apps in the library jumped to 60 in less than a year.

Employees added all sorts of consumer apps: Facebook, LinkedIn, Twitter, Dropbox. By putting apps behind Okta, IT gains some measure of security. Okta provides the same kind of data protection for both consumer and corporate apps.

But an open-door policy for consumer apps surely invites risk. Sensitive data can find its way into personal cloud-storage and file-sharing services. At National Geographic, the IT department is relying on trust, not control, and asking business-unit managers to ensure their workers do the right thing.

Sure, IT still educates users. But by letting business units work things out, it becomes a trusting and supportive partner.

Tom Kaneshige is a senior writer at CIO.com.

Ways to Prepare for a Workforce Knowledge Gap



JAYANTA BANERJEE
Global Head of TCS's
Energy and Resources



TOM FRANKLIN
Director of TCS's Global
Upstream Center of Excellence

CIOs and corporate executives worldwide are grappling with the challenge of tapping into the vast knowledge and expertise of retirees once they leave the workforce. As the world's population continues to age at a staggering rate and the composition of the workforce changes, organizations must be prepared. Two senior executives from TCS Oil & Gas Practice share their sentiments.

Consider these statistics:

- In the U.S. alone, roughly 10,000 people turn 65 each day—and by 2030, fully 18% of the U.S. population will be 65 or older.¹
- Within the next few years, 50 percent of the European Union's population will be 65+.²
- By 2025, more than 25 percent of the population of Asia will be over 60.³

While the staggering numbers of knowledge workers retiring is a global issue, the challenge is particularly acute in the oil and gas sector of the energy industry, explains Jayanta Banerjee, Global Head, Energy & Resources Business Unit at Tata Consultancy Services (TCS), LTD.

"In the 1980's, when the price of oil dropped, younger workers did not enter the industry, resulting in a 15-year missing demographics gap in the workforce population. Today's workforce consists mostly of 50 and 60 year-olds, together with 20-somethings motivated by new industry opportunities," he explains.

Young workers today are technically savvy and are avid social media users, but lack the breadth of practical knowledge honed over a professional lifetime. When faced with today's highly complex technical problems, they expect instant gratification.

"To achieve the levels of effectiveness, with a less experienced workforce, we need to meet those expectations," says Banerjee.

Adds Tom Franklin, Director, Upstream Oil & Gas Center of Excellence, TCS, "There is a critical need to reach across the divide and bring in less experienced people. We need to provide a meeting place for people to bridge the knowledge gap, and we are very concerned about this issue."

Social Media Meets the Challenge

The challenge is to create a new workplace based on collaboration and co-creation. Social media tools offer an innovative solution in several key areas, explain the TCS executives.

First, when it comes to highly complex problems, experience counts. Franklin described how a retired petroleum engineer helped an engineering team solve a highly complex production problem on an oil well based on his knowledge of the original design. "He linked online via the Web from his retirement home where he coached the team and helped solve the problem."

Second, social media facilitates a relationship between the old and new workforce, creating a "platform of knowledge." Combining the knowledge of experience with the technical know-how of young workers leads to better business results and reduces risk. TCS, for example, uses an internal proprietary platform to foster real-time collaboration and exchange of ideas across generations.

Third, using collaborative technology tools, retirees can coach and mentor new employees, helping to cultivate a highly knowledgeable global workforce. By using technology to keep retirees connected and engaged, the workforce can actually increase without adding effective headcount because retired knowledge workers can contribute to the organization without being on the payroll.

In sum, social media tools can play an important role in creating a new, collaborative global workforce. It enables organizations to retain a vast body of knowledge for posterity, quickly train less experienced workers, and foster inter-generational relationships. Younger workers gain invaluable experience in record time, while retirees are able to maintain their professional involvement in a non-traditional way for greater personal satisfaction, continued personal growth, and for the industry's benefit.

LEARN MORE AT www.tcs.com

¹ "Baby Boomers Retire," Pew Research Center, December 29, 2010, <http://www.pewresearch.org/daily-number/baby-boomers-retire/>

² "Aging, A Global Opportunity to Live Better," MIT AgeLab, http://stuff.mit.edu/afs/athena/dept/agelab/about_agelab.shtml

³ Disruptive Demographics, MIT AgeLab, <http://agelab.mit.edu/disruptive-demographics>



Screening by Video

Recorded interview questions—and their answers—can give you a head start on selecting job candidates **BY KRISTEN LAMOREAUX**

If you're tired of being buried in inappropriate résumés from HR (oh yes, I did just write that), there's a new wave to catch: pre-recorded video interviewing. We know that companies have been incorporating Skype, Oovoo and FaceTime into their interview processes for years, but each of those tools requires one thing: You, the hiring manager. The new wave removes you from the equation, at least initially.

Dave Sinclair is the corporate recruiting manager for Henkels and McCoy, a large, privately held engineering, network-development and construction firm with more than 80 offices in North America. Sinclair is piloting a tool called InterviewStream that offers online, pre-recorded video interview questions. Candidates can launch their interview process the moment they apply for a job. "This is a breakthrough for the company," Sinclair says. "We recruit people from around the world and others who are road warriors. Coordination of interviews can take months, but with a tool like this, we can kick off the interview process 24/7, regardless of geography."

Individual hiring managers can select questions from extensive video libraries of pre-recorded questions (asked by actors or actresses) or they can record their own pre-screening questions. Upon applying for a job, candidates are asked, "Would you like to complete a pre-screen interview now?" The video questions can replace a general phone screen or focus on ensuring candidates have depth in a particular skill set. "We're using video screening for high-demand roles and critical roles," Sinclair says. "We find it works best for technical recruiting, engineering, project management and college recruiting."

Instead of the usual process—reviewing applicant résumés, setting up a phone screen and typing up notes—Sinclair can view a few minutes of video and forward the link with comments to hiring managers. The system notifies Sinclair when the hiring manager views the link, so he knows to follow up for feedback and next steps.

In addition to the time savings of 24/7 video recruitment, Sinclair says the tool helps hiring managers maintain the company culture. "We're a very culturally driven company, and it's harder to gauge cultural fit by paper," he says. Sinclair also thinks those candidates who agree to the video pre-screen will have better odds of being interviewed. "Unless a candidate has an awesome résumé, the hiring manager will have a better chance of developing a connection with a video candidate. It's just human nature."

Easier Scheduling

The video technology can "greatly improve the hiring process, which historically has been very frustrating to hiring managers," says Rick Fabrizio, CIO of AmeriGas, the nation's largest provider of propane. "Scheduling multiple candidates to meet with multiple managers has always been challenging. Now the process becomes very flexible for us."

With over 800 locations in 50 states, Fabrizio likes how HR can simply forward a pre-screen video link to interviewers. "It's really a win-win for all parties involved: It lowers costs for HR, it saves time for the candidates, and reduces travel time. But what really excites me is that it enhances the selection process." Fabrizio is a fan of the pre-recorded interview questions. "It shortens the hiring cycle since it weeds out the candidates that look good on paper but are a bust in person."

Yes, there are security and network bandwidth issues to consider with these online interviewing systems. But here's some food for thought: I contacted over a dozen companies using or considering these types of interviewing tools. All were very excited about the speed-to-hire improvements and ease of use. But in many cases, the CIOs of those companies were completely unaware that HR had already gone out and secured the service.

Kristen Lamoreaux is president and CEO of Lamoreaux Search, which finds IT professionals for hiring managers.

Video interviews help weed out candidates who "look good on paper but are a bust in person."

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DISRUPTION Déjà vu

Western Union has survived dramatic business upheavals. Can the CIO help this Civil War-era company succeed in the digital payments revolution?

BY KIM S. NASH

When Western Union sent its first telegrams across the frontiers of America in 1851, it struggled against companies with competing, incompatible technologies. Years of fierce wheeling and dealing

helped Western Union acquire and neutralize rivals. Then a prestigious 1860 contract to build the first coast-to-coast telegram system—which critics incorrectly said would never work—solidified the company's dominance. Even the eventual spread of the telephone and radio didn't derail the company, partly because by that time, Western Union had diversified from simply moving words to moving money, too.

In 2006, Western Union sent its last telegram. Today the \$5.7 billion company makes most of its money from the fees it charges when people transfer funds and pay bills—and by hedging exchange rates for currencies in over 200 countries.

But a history of scrappy transformation doesn't guarantee the future. Western Union's business is conducted mainly in person, and in cash, in a world where money cards, digital currency and mobile payments are proliferating. A friend can pay you back for his bar tab with a text message. Bitcoins can buy you a spot on a Virgin Galactic rocket. Big banks, meanwhile, are horning in on Western Union's market: the estimated 2 billion people worldwide who don't have checking, savings or credit accounts.



David Thompson, CIO and EVP of Global Operations and Technology, says mobile, Web and big-data technologies will be key to Western Union's digital transformation.

To anticipate where new, profitable niches will emerge and to keep costs in line, Western Union must transform itself into a digital company. But it also wants to preserve the core business that has provided so much for so long. CEO Hikmet Ersek says he searched for months to find the right CIO to lead the effort. And two years into the job, that man, David Thompson, says Web and mobile technologies, along with a few irreplaceable proprietary systems, will be critical.

But, Thompson says, big data may matter most of all. Analytics could help Western Union sidestep the mistakes of familiar failures like Blockbuster and Borders. Understanding how people react to global migration pressures, geopolitical struggles, economic changes and natural disasters will shape Western Union's products and pricing, says Thompson, who is also executive vice president of global operations. "My team is starting to wake up to the fact that they're a partner in something that's really changing our company."

CEO Ersek is pleased with progress so far, but says, "We have a long way to go."

Creative Destruction

Upheaval in the financial services industry is being created by established players and entrepreneurs alike. Market-leading

banks and credit unions offer mobile apps and on-the-spot loans. Startups are devising new ways to buy and sell with mobile phone swipes, scans and text messages. Bitcoins and other virtual currencies are now taken seriously by federal officials; Congress held fact-finding hearings on the topic in November.

These changes portend a "moment of creative destruction," says Lisa Servon, a professor at The New School who focuses on economic development and urban poverty. "Western Union sees the writing on the wall and, like everyone, is trying to figure out how to leverage new technology to improve their own services."

The question is whether Western Union will be fast and bold enough to emerge as a winner in the game of digital disruption. A slew of startups are clamoring to topple Western Union in the money-transfer business (see "Their Mission: Disrupt Western Union," below). "Establishing an infrastructure to operate legally and efficiently in a variety of countries will take some doing for startups," says Denée Carrington, a senior analyst at Forrester. "But Western Union can't just count on the fact that it's hard to insulate them forever."

Western Union's Ersek contends the company is already digital internally, conducting an average of 28 transactions per second. The real change the CEO wants is in extending digital capabilities to customers directly. But timing is everything. If

THEIR MISSION: Disrupt Western Union

A slew of startups are plotting to overthrow the money-transfer industry leaders

Plenty of companies, big and small, want to steal Western Union's business using advances in electronic money and digital payments. Some startups are partnering with established players in telecommunications and other industries to reach consumers who usually don't have bank accounts, but who nonetheless pay bills and send money to family and friends. Others are working feverishly alone.

Since 2011, venture capitalists have invested at least \$104 million in money-transfer startups, according to researcher CB Insights, which characterizes these 39 deals as attempts at "disrupting Western Union."

"The money-transfer market is ripe for disruption because it's not a very satisfying experience for a customer right now," says Denée Carrington, a senior analyst at Forrester.

For example, senders wait at a customer-service desk, fill out paperwork and then have to wait again while the transaction is processed. Customers also can't usually track their transactions along the way, like they would with a FedEx package, and sometimes receivers don't get the funds, Carrington says. Plus, customers must pay fees and currency exchange rates set by Western Union and MoneyGram, the dominant players.

Smart competitors have examined the customer experience and are trying to capitalize on its faults, she says. Xoom, for example, offers text and email tracking of transactions. The company, which went public a year ago, operates in 30 countries and claims 997,000 active customers.

Here's a sampling of other companies nipping at Western Union's heels in money transfers or bill payments:

■ **TransferWise** uses peer-to-peer networks to let users send money to each other internationally. The London

company, started in 2011 by two Estonian entrepreneurs with experience at PricewaterhouseCoopers, Skype and other tech companies, targets students, expatriates and travelers. But anyone can use it. TransferWise bills itself as a cheaper, faster alternative to banks.

■ **Dwolla** is a startup that built a proprietary payment network that allows customers to move money from their bank accounts for 25 cents per transaction, or for free on transfers of \$10 or less. Customers can use their cellphones, email addresses or accounts on Facebook, LinkedIn or Twitter.

■ **Barclays Pingit** is a mobile money-transfer app launched by the banking giant in 2012. It lets people 16 and older use their cellphones to send money to other users in the U.K. Pingit is instant and free.

■ **Several companies**, including most of the big banks, are issuing pre-paid or other forms of debit cards to move money internationally. Payoneer does this too, plus offers e-wallets that are localized to various countries. Metabank's iAdvance prepaid cards, meanwhile, carry the Visa and MasterCard brands.

—K.S.N.

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Western Union overhauls basic customer interactions by throwing a lot of new technology at consumers, it risks alienating and losing them. If the company moves too slowly, competitors will steal customers. Analyzing customer behavior will help Western Union find the right pace, he says, reeling off a series of IT-based ideas, such as analyzing what customers do in social media and measuring the results of online and mobile marketing campaigns.

Details, details, details are important to him, to hone strategy. "We want to know when a Filipino customer in the U.K. goes to church on Sunday," he says, by way of example. That way, Western Union can create customized products based on those life details. The Philippines is one of the most popular destinations for money transfers. Maybe a customer is in a family mood after church and will send money back home if offered a Sunday discount. "Not many companies have such global data."

Western Union's customers are both an asset and a risk. They don't have bank accounts for a variety of reasons. Maybe they're unemployed or they've abused accounts in the past. Maybe they have too little money to open an account. Maybe they can't or don't want to provide Social Security numbers.

Eight percent, or more than 25 million, of the 317 million people in the U.S. don't have bank accounts. In low-income areas, that number is much higher: In the south Bronx in New York City, it's 50 percent. The unbanked market in the U.S. alone is worth \$78 billion, estimates the Center for Financial Services Innovation, a nonprofit group that promotes public policies to help the underserved. If Western Union is right in estimating that 2 billion people are unbanked and under-banked worldwide, that's 28 percent of the Earth's population who, by definition, even global behemoths like JPMorgan Chase and Deutsche Bank don't reach. Western Union's customer database, therefore, is of "enormous value," Ersek says. "You can't imagine."

For example, analyzing the behavior of so many under-the-radar consumers tipped Western Union off to the developing financial crisis in 2008, he says. Customers were sending less money in the average transaction and conducting fewer transactions, the data showed. This prompted Western Union executives to revise their financial expectations and warn Wall Street six months before others in the financial industry caught on, he says. "These customers are totally different than customers that typical financial companies serve," he says.

It's hard to say whether Western Union and competitors like MoneyGram unfairly exploit the unbanked, according to Servon.

Western Union also hedges currency exchange rates, profit-



Hikmet Ersek, president and CEO of Western Union, says he's pleased with the company's digital diversification so far, but adds that "we have a long way to go."

ing from the difference between what it paid when it bought a currency and the rate it charges customers when they come into a store. This foreign exchange revenue is a growing part of total sales—24 percent in 2012, up from 21 percent in 2011.

The company also charges fees for many popular transactions. For example, it costs a customer \$10 or \$12 to send \$100 from New York to Slovenia, or \$5 to send \$100 from Boston to Manila using a credit card. Some transfers are free to the sender and receiver (for example, during a promotion), but Western Union still makes money from the currency exchange rate. "If you look at cost relative to income, [these customers] spend much more on financial services than you and I," Servon says. "But I don't know that there's any way else to send \$100 to Philippines every two weeks."

Actually, there are many ways, if Western Union's patent portfolio is any indication.

IT for Better Business

As with its "magic eye" high-speed fax machine in the 1950s, the company is trying to stay ahead of customers, to offer them more choices when they're ready. In just the past two years, Western Union has obtained 52 patents for inventions, including various kinds of mobile transactions, refundable prepaid transaction cards, and a system that lets you transfer money using the wireless technology in your car.

Last year, the company got a patent for technology that transmits fingerprints, facial geometry and other biometric data during a financial transaction. Sometimes, birth certificates, identity cards and other documents for verifying identifica-

tion are scarce, as in remote areas of the Philippines. There, Western Union won permission from regulators to use fingerprints instead. The idea came from a local Western Union team, including an IT staff member, CIO Thompson says. Having technologists stationed in various global locations helps the IT group tune into cultural norms and nuances, he says. "I don't want us to be a big monolith in corporate that doesn't understand."

Since he arrived, Thompson has been trying to make IT more responsive to business needs. He has built up analytics muscle with a Hadoop cluster and Tableau reporting tools. He also put six data scientists in strategic locations—two in the U.S., two in India and two in China. Instead of having to wait until the analytics guys in Denver headquarters wake up and get to work, the marketing, sales and operations staff can send queries to the data scientists on call. Follow-the-sun analytics keeps the momentum going, he says. "Our business is 24/7. We get questions throughout the day and night."

Plus, each team specializes in different areas. In the U.S., the data scientists are experts in e-commerce and mobile analytics, for example. In India, it's analyzing customer trends and doing segmentation. In China, modeling risk and demographic analysis.

Improving e-commerce is a top priority for the company this year, something Wall Street investors frequently question executives about. Compared to regular retailers, Western Union does little business online, and it aims to change that. Electronic channels accounted for 2 percent of revenue in 2010. Now that number is 5 percent. By 2015, Ersek hopes it will be \$500 million, or about 10 percent.

Aside from attracting customers who want to send funds and pay bills online, the website offers the company other financial benefits. Namely, Western Union doesn't have to pay commissions to a sending agent online, though it does have to pay credit card fees. Right now, while Ersek and Thompson spend money to enhance the site, transactions there carry lower margins than those conducted in physical stores. But by 2015, the margins should be up to par, CFO Scott Scheirman recently told investors.

The company is also working on ways to advance its regulatory compliance system, which is a proprietary system developed over decades and which is considered a competitive advantage. The compliance engine ensures—in a split second—that transactions adhere to the many layers of federal, state and local regulations that apply where Western Union does business. It also generates a risk profile for transactions and individuals. The system can't be duplicated by would-be

rivals, at least not easily or without considerable expense. "That is a significant barrier to entry to our industry," Thompson says. In a recent patent, Western Union describes technology it created to mask customer data from a phone operator but pass it on to remote servers for verification. With a smartphone, users could also scan and transmit codes imprinted on paychecks, for example, or the magnetic strip of a card, but the data would remain private except to the software verifying it.

As good as its compliance systems are, however, they're not

perfect. And regulations around the world are changing all the time. State and federal agencies, as well as government agencies from other countries, have increased requests for data in recent years as they investigate money laundering and terrorist financing activities. And some provisions in the 2010 Dodd-Frank Act are affecting Western Union's money transfers to Mexico and Latin America. Compliance costs money. To meet regulatory deadlines, Western Union has to add staff to manually carry out verifications while IT works on building the new checks into the compliance engine, Thompson says. In all, Western Union spent \$100 million in 2012 on anti-money-laundering compliance efforts alone, and Ersek is committed to building "best-in-class" programs in this area.

Meanwhile, the company is still dealing with a 2010 settlement it reached with Arizona and three other states that claimed the company didn't effectively monitor com-

pliance of money transfers in and out of Mexico. The agreement calls for Western Union to improve its compliance programs along the U.S. border, which the company is still working on. Western Union must heed rulings from a court-appointed monitor overseeing the programs and has spent \$71 million on the settlement so far. The company is also the target of an ongoing money-laundering investigation related to the activities of current and former Western Union agents. The company "continues to cooperate fully," according to financial documents. A spokesman declines to comment further.

Relentless Competitors

It's one thing to slice and dice data. But it's another to apply findings in a way that doesn't cannibalize current business but rather moves at the customer's pace, or perhaps just a touch faster, while keeping competitors at bay.

For Western Union to thrive, executives have to be careful not to over-rely on any one asset, says Dave Aron, a Gartner analyst who has studied business model disruption. Like ants at a picnic, competitors are constantly looking for ways

"Western Union sees the writing on the wall and, like everyone, is trying to figure out how to **leverage** new technology to **improve** their own services."

—Lisa Servon, Professor,
The New School

to work around obstacles to get to the pie. For example, banks are trying to win over some of Western Union's customer base of unbanked and under-banked consumers by offering reloadable, prepaid cards that work like debit cards. JPMorgan Chase launched one in 2012.

It doesn't help that competitors have some powerful allies. The Federal Reserve and the World Economic Forum, among other entities, want to find ways to draw the unbanked into the mainstream financial system for many reasons. They want to encourage saving, while a money-transfer company like Western Union doesn't have regulatory approval to offer savings accounts. They also want consumers to have recourse if funds are lost or stolen; with cash, you're out of luck. These organizations see mobile banking as the key. A recent survey by the Fed finds that 63 percent of unbanked and 91 percent of under-banked consumers in the U.S. have a cell phone.

Ersek and Thompson agree about mobile's potential. Western Union's mobile app helps customers find local agents and stage transactions on the phone, so everything's ready to go when they get there. One future enhancement developers are working on is prescheduling regular transactions and pre-populating data fields, to save time.

Such personalization is good, but Western Union doesn't want to lose the genuine interpersonal relationships between customers and agents that feed trust in the brand. That's a key difference between a bank and a company like Western Union, Servon says. Customers who come in regularly to conduct the same transactions develop rapport with agents. "For the companies that sell the products, their business depends on those relationships," she says.

Technology like compliance systems and patented inventions is indeed an advantage, Aron says. But truly innovative companies also try to capitalize on broader concepts. That might include ideas such as trust and customers "as whole people," he says. For example, at 7-Eleven Japan, senior executives realized that the company's fundamental asset was its knowledge of the small communities where its convenience stores have stood for so many years. The company expanded into adjacent businesses lines, adding dry cleaning, postal services and other ways to do chores inside 7-Eleven stores.

"Big data led them to say, 'We understand the community better than anyone else,'" Aron says. "They realized they know how to solve daily problems."

Western Union has no plans for a dry-cleaning business. But it is stretching its thinking about what a money-transfer company can be.

'Migrant Diaspora'

Copying moves from the retail industry, Western Union's Thompson talks about offering special deals for frequent buyers. Analytics makes it possible to sift out, say, customers who send \$50 to Thailand every week. That kind of regular customer could get a personalized offer—maybe a package of five transfers per month for a discounted fee, he suggests. "We

use your usage pattern to customize your experience," he says. "That's just for you."

IT and marketing are working together to understand larger societal and behavioral trends that can affect business. For example, analyzing internal and external demographic data can predict migration patterns and help determine where to open a new retail location. And tracking the "migrant diaspora" that Western Union's CMO talks about would let the company create special online promotions for customers who are culturally similar but geographically dispersed. Thompson wants his IT team to help business colleagues anticipate such trends, to "get ahead of the business with our data," he says.

One recent insight Western Union found is that when customers who usually do business in person come to the website, they act differently from newer customers whose main interaction with the company has been online, he says. By identifying who's who as soon as someone arrives at the website, the site can present options in a different order, he says, so an individual gets the experience that makes the most sense to him. Changing the flow of screens and promotional offers can increase loyalty and yield higher revenues, he says. This kind of analysis is improving collaboration between IT and

sales. "The business says, 'I got a half-point uptick because of [those changes].' We say, 'That's great.'"

Of course, the CEO also wants all the IT work to deliver significant financial payback, and fast. "We don't pour money into anything without returns," he says.

ROI on the CIO

One big investment Western Union's CEO has made is swapping out one CIO for a new, more expensive one from outside the industry. John Dick, who was CIO from 2008 to 2012, was reportedly asked to leave, telling an audience at a Forrester conference that Ersek sought someone with different skills. A Western Union spokesman confirms that the company rethought the CIO position. "The role and priorities of the position were realigned around our technology and operations needs to better drive our customer-centric strategy," he says, declining to comment further. Dick, who is now CIO at staffing firm Towers Watson, didn't respond to a request for comment.

While Dick had spent nearly all of his 32-year career in financial services, Thompson hadn't ever worked in financial services before. His most recent CIO jobs were at Symantec, Oracle and PeopleSoft. When Western Union's board of directors discussed what to pay Thompson, they considered not only the going rate for CIOs but also the magnitude of what they were asking him to do, according to the company's latest proxy statement. Earning \$3.4 million, he is the second-highest-paid officer at the company, behind Ersek. So far, the CEO calls Thompson "one of my best hires." **CIO**

"We have a long way to go."
—Hikmet Ersek, CEO, Western Union

VIEWPOINT



Myrna Soto

SENIOR VICE PRESIDENT & CISO, COMCAST – NATIONAL ENGINEERING & TECHNICAL OPERATIONS

Myrna is responsible for Enterprise Information and Infrastructure Security strategy at Comcast. She oversees several security teams focusing on the protection of customer data, the security of Comcast's Enterprise and Service Delivery network, as well as all technology compliance related activities. She is also responsible for all aspects of Technology Risk Management, Brand Protection, Security Solutions Delivery, Customer Privacy, Security Intelligence & Security Architecture.

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Security in a Mission-Critical Network: The Importance of Investment

A recent IDG Research survey of IT professionals reveals that they worry about multiple issues when it comes to security: creating and enforcing consistent policies, improving security education within the company, and finding the right personnel.

Myrna Soto, senior vice president and CISO for Comcast, is responsible not only for her firm's enterprise network, but also the service delivery network passing 50 million homes. She provides a forthright and independent viewpoint about addressing those issues and maintaining security in a vast and mission-critical network.

In the IDG Research survey, enterprises report allocating 11% of the IT budget to security, but more than half (53%) think that's too low. What should enterprises consider when allocating a security budget? Our spending on IT security is higher than the allocation figure in the survey, but I think that's because we're protecting two unique networks. We think more about investment than cost. Protecting our brand and our customers' interactions takes precedence over anything else. It's easy to get caught up in percentages, but security professionals should advocate for increased yet value-targeted investments.

In addition to improving education, updating policies, and investing in technology, respondents also cite the importance of hiring new IT security talent. What kind of security skills are you looking for? Do you train internally or hire externally?

We do both. We fill about half of our positions through internal promotions. We do a lot of training, focusing on cross-functional experience in security. We have a job-shadowing program for high-potential staff to learn more. The other half we recruit externally.

We're looking for practitioners who

have forensic and security engineering experience, along with the traditional competencies. We need people who have depth in security functionality, but who also have the business acumen and understanding of infrastructure and integration. They have to understand that what we're deploying will both protect and enable the business.

Only about half of respondents report being extremely or very confident when it comes to maintaining security without affecting performance, either currently or as they roll out new technology. How can IT move from "no" to "know"—where they have insight into the security landscape without affecting performance?

It goes back to the core principle of having a strong business connection in your security footprint. We play a more proactive role and become involved earlier in the product cycle. When you build that rapport and trust, you're then seen as someone who's a trusted adviser.

It also comes down to taking calculated risks. Most of the time in security, it's black or white, safe or not. The reality is, you have to look at the entire ecosystem versus one single component of your network or application architecture. What mitigating controls are in place? What technologies will let us respond to a threat? How can we respond to a threat and still protect the brand while allowing the business to progress?

What advice would you give other IT leaders concerned about security?

Don't manage risk through fear, gloom, and doom. To gain the trust of senior executives, you have to come in with tangible facts about the real risk, what does it truly mean to the "brand" and present it not in bits and bytes, but in a business context. ■

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SOUNDING BOARD

Make Way for Millennials

No chilled vodka in the company fridge? No worries. Here are better ways to engage Gen Y.

PAUL BRADY, ARBELLA INSURANCE GROUP

LET THEM TALK TO SENIOR EXECUTIVES

Two years ago, the IT organization worked with HR to create an entry-level hiring program that helped us proactively plan for future retirements and introduce new energy and ideas. Through partnerships with local colleges and a strong co-op program, we've made significant progress. By mid-2014, about 15 percent of our staff will be hired right out of college.

One of the best ways to engage new professionals is to ensure they will fit in with the corporate culture and help them successfully transition from college to the workplace. We're an IT organization in the insurance industry, so we're somewhat conservative—we don't have chilled vodka in the refrigerator. Someone with a computer science or electrical engineering degree might not be interested in implementing shrink-wrapped ►►



Paul Brady,
VP & CIO, Arbella
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Frank DeArmas,
VP of IT & CIO for
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Julius Chepey,
CIO, APi Group



The **CIO Executive Council** is a global peer advisory service and professional association of more than 500 CIOs, founded by CIO's publisher. To learn more, visit council.cio.com.

systems, so we focus on graduates with business degrees and a technology focus. We also look for people who value the mentoring, career-development and community-involvement programs we offer.

We provide new college grads with the opportunity to work directly with the business so they understand what the company does and how technology affects that. One of the best things you can offer new professionals is access to senior leaders. They're not going to meet with the CEO every day, but giving them that opportunity early on is very important.

FRANK DeARMAS, JOHNSON & JOHNSON
MAKE THEIR CONTRIBUTIONS COUNT

We find young employees for our IT leadership development program in several ways—in co-op programs, through college recruiting and via partnerships with technology associations. We don't sell them on an IT career; we sell them on our company. We have a great company that does amazing things for people worldwide, and that's incredibly attractive to new graduates. They want to do more than earn a paycheck; they want to give back.

Once they are hired, we assign them to a class and start their rotations through the company. They want to be exposed to everything. They have face-to-face skip-level meetings (sit-downs between employees two or more levels apart), and I meet with them regularly. When I was coming into the workforce you would never see your boss's boss, but that's important to this generation. They make presentations to senior management, because contributing is very valuable to them.

They bring a lot of creativity and innovation, and we want to take advantage of that, so we involve them in our IT R&D program. We put them in the business intelligence group and encourage them to brainstorm. And we're not just going through the motions. They can see their opinions become reality, and that reality become action.

JULIUS CHEPEY, API GROUP
VALUE ABILITY, NOT TENURE

Since becoming CIO, I have tried to create a collegial environment of peer sharing and support. And you know who's great at community? Millennials. Those under-30 employees are active participants and relationship builders. They like to voice their opinions even if they've only been with the company a year.

We've been able to promote our young hires heavily. We hired one gentleman right out of college who worked in our field support office. He was phenomenal, but after a year he got bored. So we promoted him to a project where he is traveling to our 200 locations to work on a technology refresh. His cohort sees that he has been promoted not on tenure, but on ability and attitude, and now they have that "put me in, coach" attitude. And our turnover rate for that population has been zero. At first, I thought I could just give them a goal and let them figure it out for themselves. But when this is your first real job, you don't know what success looks like. Now we provide them with a better picture of that goal and how to get there. We don't go overboard micromanaging them; that's a gigantic turn-off to these guys. We've found the right balance.

TAKE Note

Define the Future

ORDER It's natural to compare yourself to your peers, but it's more revealing to look at how you measure up to the CEO. As IT leaders advance to the C-level, they need to move beyond good management skills (such as team leadership) and develop advanced skills in organizational alignment (such as change leadership) and business matters (such as a commercial orientation). These capabilities are outlined in The Future-State CIO Journey model, which was developed by members of the CIO Executive Council. Members of the council are working to define the future of the CIO role rather than letting it define them. Order a copy of the model to track your own journey. council.cio.com/journey

Lessons from the Top

REGISTER In response to popular demand, the CIO Executive Council will offer its Leadership Master Class at the Premier 100 IT Leadership Conference on March 4. Participants in the council's Pathways leadership development program will join 2014 Ones to Watch honorees in an engaging master class for practical leadership coaching. During small-group discussions, participants will be able to ask IT's most respected leaders for advice on building business skills, stretching beyond their comfort zones and learning from mistakes. council.cio.com/masterclass

Women in Business

JOIN Businesswomen from many industries have found common ground in the Executive Women in IT Leadership Connection, a community that offers an array of opportunities to take charge of their professional development. Hundreds of executives, directors and managers have attended the group's networking receptions, listened to online webcasts, exchanged new ideas and learned useful tips from C-level executives. Members learn from each other's successes and failures and gain insight into other organizations. council.cio.com/connection

Making Connections

Delphi's CIO is paving the way to a collaborative workplace

BY TIMOTHY MCCABE

When I became CIO in 2009, it was my passion to take a dispersed company and work to help unify it as a connected Delphi. We have 120,000 employees in 32 countries who engineer and build automotive solutions and manage customers. Each day, we receive 250 million pieces of raw material from 6,500 supplier locations and produce 60 million parts for 23,000 customer locations.

Of course, this doesn't all happen in one room; developing a crash-avoidance system might involve people speaking several languages in several time zones, working on intricate engineering drawings that have to be managed securely, using version control and a follow-the-sun methodology. That's why we're working to bring our connected Delphi vision into reality.

The first step of this process involves providing access to information, regardless of device or location. We're doing that with cloud-based document management and enterprise search.

The second is refining our ability to attract, hire and retain great employees. We ship a billion lines of code a day, and to attract talented programmers, we need a collaborative culture that allows flexibility in how work gets done. By 2020, 45 percent of the workforce will be millennials, so being an employer of choice now requires not just competitive pay and benefits, but also a desirable work style.

Third is nurturing innovation. When diverse people get together, they devise more creative solutions. To encourage that, we've made social networking tools like Yammer available, we've redone our intranet, and we're deploying Microsoft Lync for audio- and videoconferencing.

And finally, we must foster collaboration. As our CEO said to me, "No matter where you are, you're 70 percent out of position," meaning if you're in Germany, you're close to

the action there, but that might be just 30 percent of what's happening in Delphi as a whole. If a lead engineer is having trouble with the conductivity of a particular combination of metals, how can you bend space, time and distance so he or she can quickly find and connect with someone who's written a related article? We're working to make that happen through technology like video presence and unified communications.

We're already seeing tangible benefits. For instance, high-definition cameras on the plant floor have shortened our problem-resolution times and reduced travel for engineers. It's still in the early days, but we've designed a cost-benefit analysis to measure startup production, design cycles and collaborative sessions.

The important thing is staying relevant and being contextually aware. If I had started talking about deploying Yammer and

Newsgator on top of Lync several years ago, during Delphi's restructuring, I would have been considered out of touch. You need to be in front of the enterprise—not waiting for them to verbalize their needs—but they have to be able to understand the ideas you're proposing. We have a willing CEO and a willing enterprise, so the confluence is perfect. We haven't solved it all yet, but we see the art of the possible and are pursuing some of these objectives and goals.



Timothy McCabe is SVP and CIO at Delphi Automotive.



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Fighting Fakeness

Fake medications are dangerous for the person consuming them and create major headaches for pharmaceutical companies. TruTag Technologies is trying to prevent counterfeiting with an invisible tag that marks individual pills with such data as manufacturing location and product number. "Counterfeiting is the biggest dirty secret that manufacturers don't want to talk about," says Kent Mansfield, president of TruTag. "We're giving the basic ability to glean product genealogy." The TruTag marker, which is similar to a barcode, is applied using a special coating during the manufacturing process. The tag isn't visible to the naked eye, but a TruTag scanner can read the encoded information. Companies that manufacture consumer goods, pharmaceuticals, defense equipment and automotive parts are using the tags and readers to verify the authenticity of products. Mansfield says he wants to extend the technology to consumers so they can authenticate products for themselves.

—Lauren Brousell

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